**Speaker Identification: The Right Anterior Temporal Lobe and Acquired Recognition Disorders**

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### Background
- Recognition of a familiar person relies on processing:
  - name
  - voice
  - face
- Damage to the right anterior temporal lobe (ATL)
  - can result in deficits in processing visual and auditory information
  - can affect speaker identification and result in an acquired recognition disorder

### Purpose
- Understand the role of the right ATL in speaker identification
- Challenge prior literature about diagnosing agnosias
- Explore the types of modalities affected
- Outline the use of proper terminology
- Encourage testing across all modalities

### Importance of Diagnosis
- Proper diagnosis crucial to understanding abilities of the patient
- Identification of modality-specific deficits:
  - classifies disorder
  - indicates how patient compensates using other means of processing
- Multimodal disorders have greater impact on communication

### Neuroanatomical Evidence
- Lateralization explains asymmetry of deficits
- Loci of damage could predict deficits
- Voice and face recognition deficits often co-occur due to proximity of lesion sites in the right ATL
- Unilateral damage to the left ATL:
  - hinders name recognition
  - preserves voice and face recognition
- Unilateral damage to the right ATL often:
  - hinders voice and/or face recognition
  - preserves naming abilities
- Bilateral damage often causes deficits across more than one modality

### Types of Diagnoses

#### Prospagnosia
- Deficit in speaker facial recognition
- Right fusiform gyrus
- Manifests independently
- Different from object recognition

#### Phonagnosia
- Deficit in speaker voice recognition
- Right superior temporal gyrus
- Manifests independently

#### Multimodal Disorders
- More than one deficit in speaker naming, voice, and facial recognition
- Left and/or right anterior temporal lobes
- Combination of deficits in naming, voice, or face

### Current Research
- Most speaker identification research done on prosopagnosia
- Past studies often diagnosed client with prosopagnosia when it was a multimodal disorder
- Recent studies criticize current methods of diagnosis
- Current push for testing across all modalities
- Multimodal disorders more accurate in place of past diagnoses of prosopagnosia

### Discussion
#### Importance
Identifying a communication partner correctly is crucial in order to be able to call upon prior knowledge about the relationship to that individual and how a typical interaction would occur.

#### Impact of Disorders
- Negative social implications when individual cannot identify communication partner
- Prosopagnosia and phonagnosia are less severe than multimodal disorders

### Future Research
- Voice recognition
- Must include testing of naming, voice, and face recognition
- New theoretical models
- Inclusion of manual communicators in new models
- Efficacy of therapeutic techniques

### References